REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 26, 28, 29-33, 35 and 36 in the case.

I. THE INTERVIEW

At the outset, the undersigned wishes to thank the Examiner (Ms. Elve) for kindly agreeing to conduct a further interview in this case. The interview was held on July 7, 2008 and the courtesies extended by the Examiner were most appreciated. The substance of the interview will be clear from the comments presented below and from the comments appearing in the Interview Summary completed at the termination of the interview.

II. THE OBVIOUSNESS REJECTIONS

Claims 13-14 and 37-38 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Harada *et al*. (USPN 5,445,786) (Harada) in view of Burk *et al*. (USPN 6,171,556) (Burk). Claims 26-28, 31-36 and 39-40 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Harada and Burk, and further in view of Strasser *et al*. (USPN 5,099,085) (Strasser). Claims 29-30 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Harada, Burk and Strasser and further in view of Muller *et al*. (USPN 5,986,152) (Muller). The rejections are respectfully traversed.

As discussed during the interview, in order to reduce the issues and expedite prosecution, the claims have been amended by canceling, without prejudice, the claims

directed to the catalyst support (claims 13-25 and 37-40), and focusing the claims on the method. Thus, the obviousness rejections as they pertained to claims 13-25 and 37-40 (including the first obviousness rejection as reproduced above) have been rendered moot, and should be withdrawn. The remaining two obviousness rejections, which include the method claims, are discussed below, and should also be withdrawn.

As now claimed, there is provided a method for selectively reacting reagents in a gas phase exothermic reaction for the selective chlorination and/or oxychlorination of alkenes or alkanes. The method comprises reacting the reagents in a tubular fixed bed reactor comprising a metallic monolith having channels with walls carrying a catalytically active phase or an intermediate layer carrying a catalytically active phase. The catalytically active phase catalyses the selective chlorination and/or oxychlorination of alkenes or alkanes, and the metallic monolith has a flat temperature profile in the tubular reactor, whereby heat of reaction in the exothermic reaction is removed by the metallic monolith thereby reducing hot spots. The metallic monolith is now defined as having a surface area per unit volume of at least 6 cm^2/cm^3, a cell density of between 8 cells/cm^2 and 100 cells/cm^2, and a length of between 30 cm to 1m.

Basis for the amendment specifying the selective chlorination and/or oxychlorination of alkenes or alkanes appears in previous claim 27 (now canceled without prejudice). Basis for the metallic monolith having a flat temperature profile in the tubular reactor thereby reducing hot spots appears at page 6, lines 27-30. Basis for the metallic monolith having a surface area per unit volume of at least 6 cm^2/cm^3, a cell density of between 8 cells/cm^2 and 100 cells/cm^2, and a length of between 30 cm to 1 m

appears in the specification at page 4, line 31, page 4, line 17 and page 5, lines 13 and 14, respectively. No new matter is entered.

Referring to the obviousness rejection of claims 26-28, 31-36 and 39-40 over Harada and Burk and further in view of Strasser, the invention as now claimed is not suggested by this combination of references. Harada relates to a metallic monolith having a metal oxide coating which may be used as a catalyst support. However, as admitted in the Action, Harada is silent with regard to chlorination or oxychlorination reactions, and is mainly concerned with exhaust gas treatment (catalytic converters and particle filters). Burk likewise (as admitted in the Action) is silent with regard to chlorination or oxychlorination reactions and relates to exhaust gas treatment. Strasser, on the other hand, relates to oxychlorination reactions, but employs ceramic monoliths as the catalyst support, whereas the presently claimed method uses metallic monoliths.

One of ordinary skill would not have been motivated as of the filing date of the present application to resort to the cited references, singly or in combination. Even if the skilled artisan had consulted the cited references (it is believed this would not have occurred), the method as claimed would not have resulted and would not have been rendered obvious thereby.

As noted during the interview, Harada is directed towards supports with "greater mechanical strength and thermal resistance in hostile environments" (see, column 1, lines 25-29). In contrast, in the method as claimed, it is the "heat removal" properties of the metallic monolith in exothermic selective reactions that are important, leading to a flatter temperature profile in the tubular reactor (as compared to that observed using ceramic monoliths), thereby reducing or eliminating "hot spots", achieving increased

selectivity and lower deactivation. These advantages are described at page 5, lines 24-30 of the present application as filed, and would not have been appreciated by one of ordinary skill based on the disclosures of the cited art.

The difference in temperature profiles can be seen from comparison of the temperature profile of a cordierite monolith (Figure 4) with the profiles observed according to the present invention (Figures 3, 5 and 6). The corresponding data on this is set forth in Table 1, which also shows the increase in selectivity to 1,2-dichloroethane obtained in the Examples as compared to a ceramic monolith. These advantages and improvements would not have been obvious to one of ordinary skill in the art based on the disclosures of the cited art.

Harada, Burk and Strasser do not, therefore, give rise to a *prima facie* case of obviousness of the invention as now claimed. Withdrawal of the obviousness rejection of claims 26-28, 31-36 and 39-40 over Harada, Burk and Strasser is accordingly respectfully requested.

With reference to the obviousness rejection of claims 29-30 over Harada, Burk, Strasser and Muller, claims 29 and 30 are dependent, either directly or indirectly, on method claim 26, which is not suggested by Harada, Burk and Strasser for the reasons discussed above. Muller is relied upon for an alleged disclosure of the use 8% or less of alkali, but is otherwise irrelevant to the claimed method. Moreover, the Muller catalyst is based on a ceramic material (gamma or alpha alumina support material - see, part (d) of the structure), not a metallic support, as is employed in the presently claimed method. Muller describes a number of different internal structures which can result in more than one channel through the centre of the pellet, and "monolith shaped

bodies" are mentioned (see, for example, col. 8, lines 1 to 9). However, Muller fails to describe or suggest the use of a metallic structure, as presently employed in the claimed method. Withdrawal of this rejection is respectfully requested.

In summary, the cited art does not give rise to a *prima facie* case of obviousness of the presently claimed invention. Withdrawal of the obviousness rejections is respectfully requested.

Favorable action is awaited.

Respectfully submitted,

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